



Hand-Held Dibbler

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Introduction

Farmers around the world spend a great deal of time planting in the beginning of the growing season. With bulbs and starter plants, much of this time is spent bent over digging holes in raised beds or soil (figure 1). The hand-held dibbler presented here is a fast, efficient tool for generating consistent, depth-controlled holes. It is faster than a bulb planter because the soil is not removed from the bed.



Figure 1. Plastic Mulch covered raised bed prepared and ready for planting.

The hand-held dibbler is a simple device that quickly and effectively creates precise holes for seeds, tubers, or transplants without the user needing to bend over (figure 2). This easily constructed tool is made of commonly available (polyvinyl chloride) PVC pipe fittings and a wooden dibble tip. It has a wide base to evenly distribute the weight of the tool and an adjustable pin to change the stroke



Figure 2. Manual hand-held dibbler in use on a plastic mulch covered raised bed.

length and depth of the hole. The 6 lb device can be assembled and ready to use in a couple of hours; material cost is approximately \$20. Access to a band saw and belt sander will reduce the time and effort required to make the dibble tip, but it could be completely made with hand tools.

Operation

The hand-held dibbler's simple design makes it easy to use. Hole depth can be changed from 0-6 inches in 1" (or optionally 1/2") step increments by placing the pin through different holes in the ram shaft and depth control collar (figure 3). Once the depth is set, the operator simply holds the ram shaft and places the flat base where a hole will be made (figure 2). Pushing down on the ram shaft will cause the dibble tip to penetrate the ground until it is stopped by the depth control pin. The punch planter can then be lifted by the ram shaft and placed in position for the next hole. The operation is fairly smooth and makes creating multiple consistent holes very easy. Raised beds are not required, but for good dibble hole formation, the soil should be well tilled and moistened; if drip irrigated raised beds are used, irrigating prior to dibble formation is suggested.

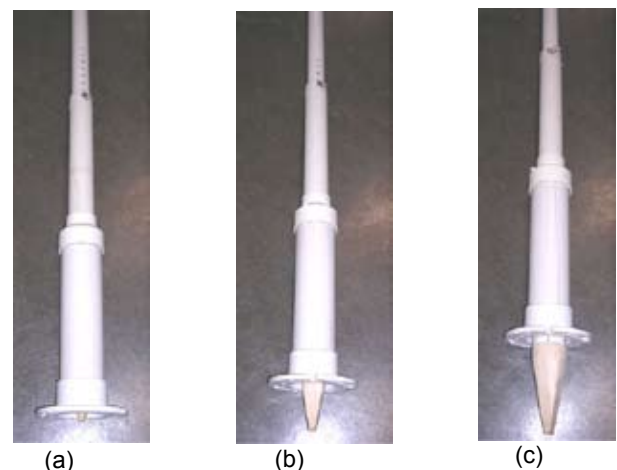


Figure 3. Completed dibbler with ram shaft in lowered position to illustrate depth control (note pin and depth control collar placement in different holes at the top of the ram shaft).

Table 1. Hand-held dibbler materials list.

Item	Quantity	Description	Dibbler Function
A	1	3" PVC flange	Bearing plate
B	1	2" to 1 1/2" reducer	Part of ram shaft
C	1	3" to 2" reducer	Part of slide
D	1	3" diameter x 14" PVC pipe	Part of slide
E	1	2" diameter x 14" PVC pipe	Part of slide
F	1	1 1/2" diameter x 4' pipe	Ram shaft & handle
G	1	2" diameter x 1 1/2" PVC pipe collar	Depth control collar
H	1	5/16" diameter x 2" lynch pin	Depth control pin
I	1	4" x 4" x 11" block of wood for dibble tip	Dibble tip
J	1	Nail approx. 3" long	Fasten dibble tip
		PVC cement	

Assembly Directions

Making of a PVC hand-held dibbler involves three aspects: assembly of the slide, shaping the dibble cone, and assembly of the ram shaft.

Slide (Figure 4)

1. Glue 3" flange (A) onto end of 3" diameter pipe (D).
2. Glue 3" to 2" reducer (C) onto other end of pipe (D).
3. Glue 2" diameter pipe (E) into reducer (C).

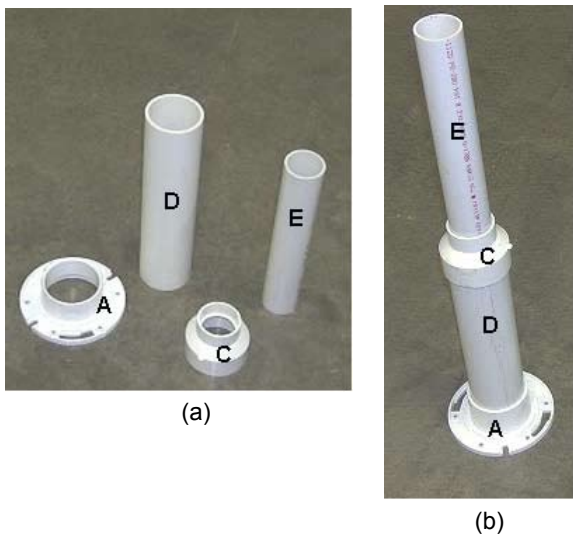


Figure 4. Components (a) and assembled components (b) (items are listed in Table 1).

Wooden dibble tip

(Approximately a cone, figures 5-9)

1. Cut block of wood (I) to final dimensions of 2 3/4" x 2 3/4" x 11".
2. Mark and cut block of wood (I) as shown in figures 5 and 6.
3. File the 2" square so that the 2" to 1 1/2" reducer fits snugly (figure 7).
4. Trace the 2" end of the reducer (B) on the dibble tip for subsequent sanding (figure 8). Sand to this diameter being sure wood does not protrude past the reducer outside diameter (or it may catch during operation; figure 9).

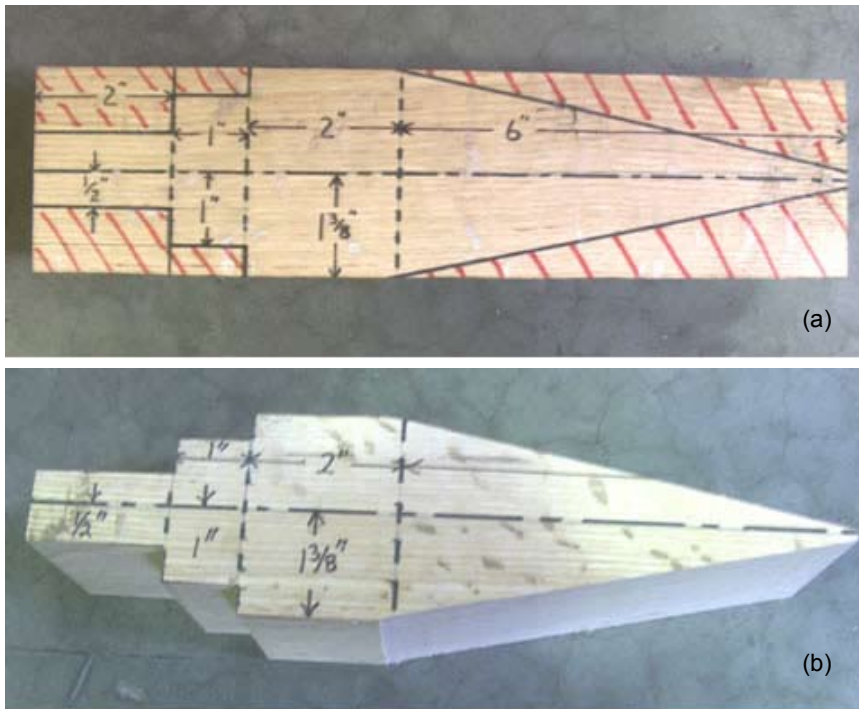


Figure 5. Block of wood (l) for cone-shaped dibble tip. (a) marked with proper dimensions and (b) cut on first plane.



Figure 6. Block of wood (l) for cone-shaped dibble tip marked for cutting in second plane (use dimensions of figure 5a).

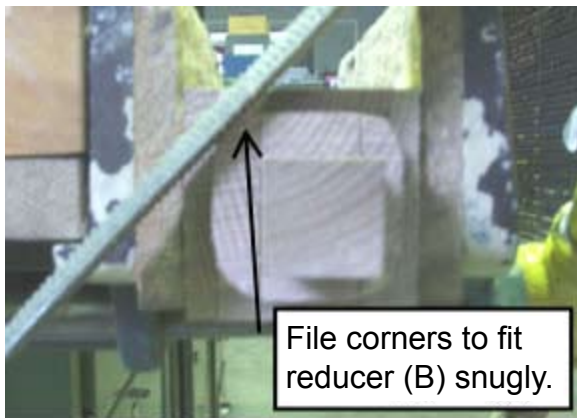
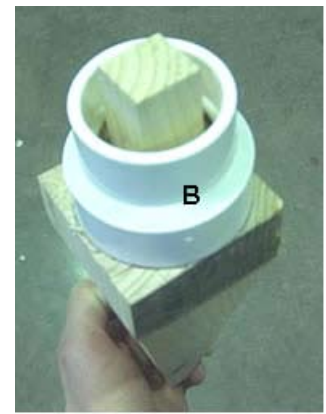


Figure 7. Filing of dibble tip for snug fit with 2' to 1 1/2' reducer (B).



(a)



(b)

Figure 8. Dibble tip (a) with snug reducer (B) and (b) reducer outside diameter marked for subsequent sanding.



Figure 9. Sanding of dibble tip corners to reducer outer diameter.

Ram Shaft (figures 10-13)

1. Place wooden dibbler tip into reducer (B) and drill a hole slightly smaller than the nail (J) completely through (figure 10).
2. Insert nail (J), cut off any excess, and secure in place with glue (figure 11).
3. Glue reducer (B) to end of the 1 1/2" diameter x 4' pipe (F).
4. Drill 5/16" holes through pipe (F) at 1" increments (figure 12). Locate the first (starter) hole with the dibble tip exposed 1" beyond the PVC flange (A) as shown in figure 3a. Position other holes in line with the starter hole in 1" increments. (Consider optional 1/2" increment holes in a line 90° from the first set as illustrated in figure 13.)
5. Slide the ram shaft into the slide from the bottom then insert the lynch pin (H) through the collar (G) and into a hole corresponding to the desired dibble depth.

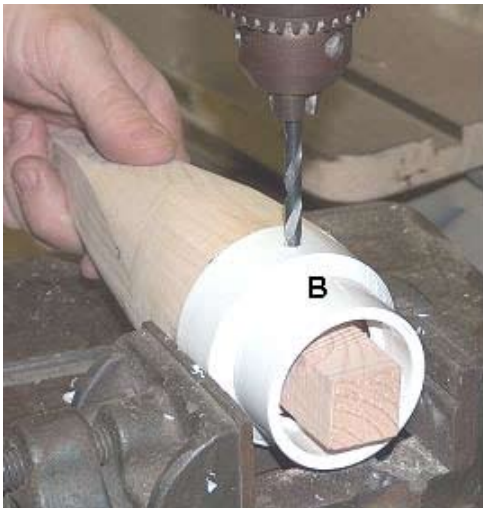


Figure 10. Dibble tip and reducer (B) being drilled for nail assembly.



Figure 12. Drilling of ram 5/16" diameter holes in shaft (F) with 1" increments.

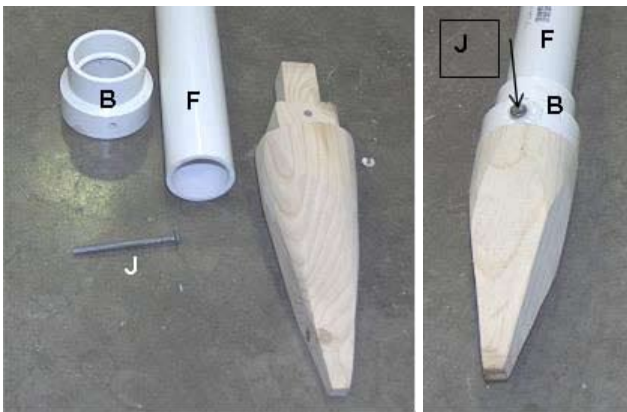


Figure 11. Dibbler ram shaft (a) components and (b) assembled.

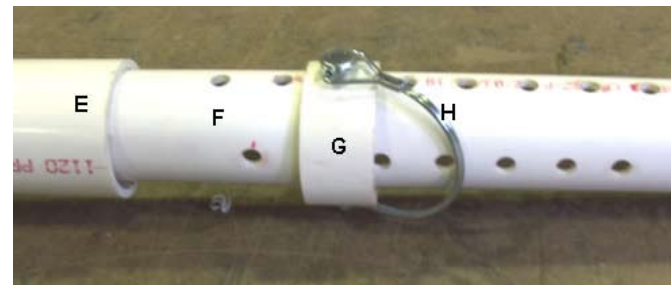


Figure 13. Depth control collar (G) and lynch pin (H) on ram shaft (F). [Optional 1/2" increment holes are shown in a row 90° from hole currently used by the pin; hole in collar (G) is 11/32" diameter for ease of adjustment.

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